

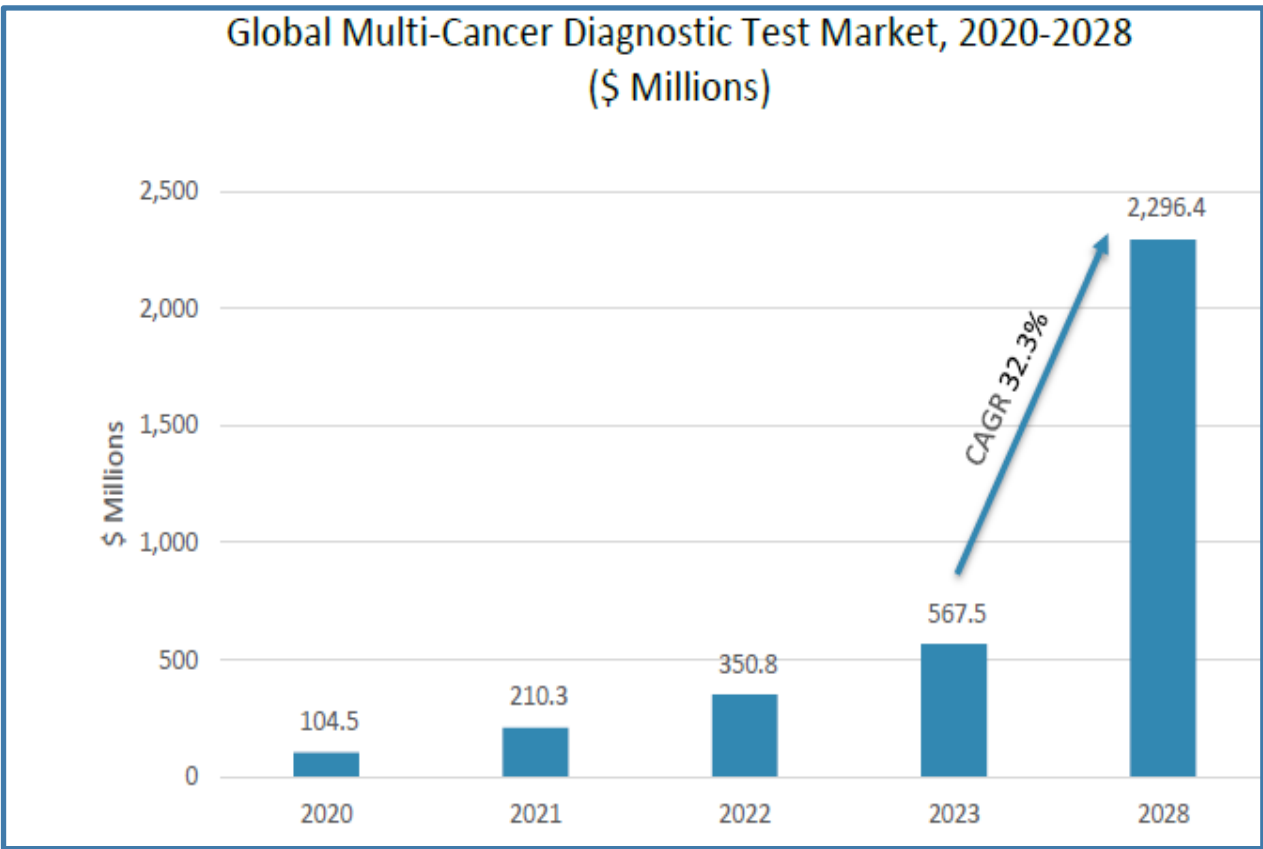
# Health Economic Considerations of Multicancer Detection Tests

**Opportunities and Challenges for the Development  
and Adoption of Multicancer Detection Tests:  
A NCPF Workshop  
October 28-29, 2024**

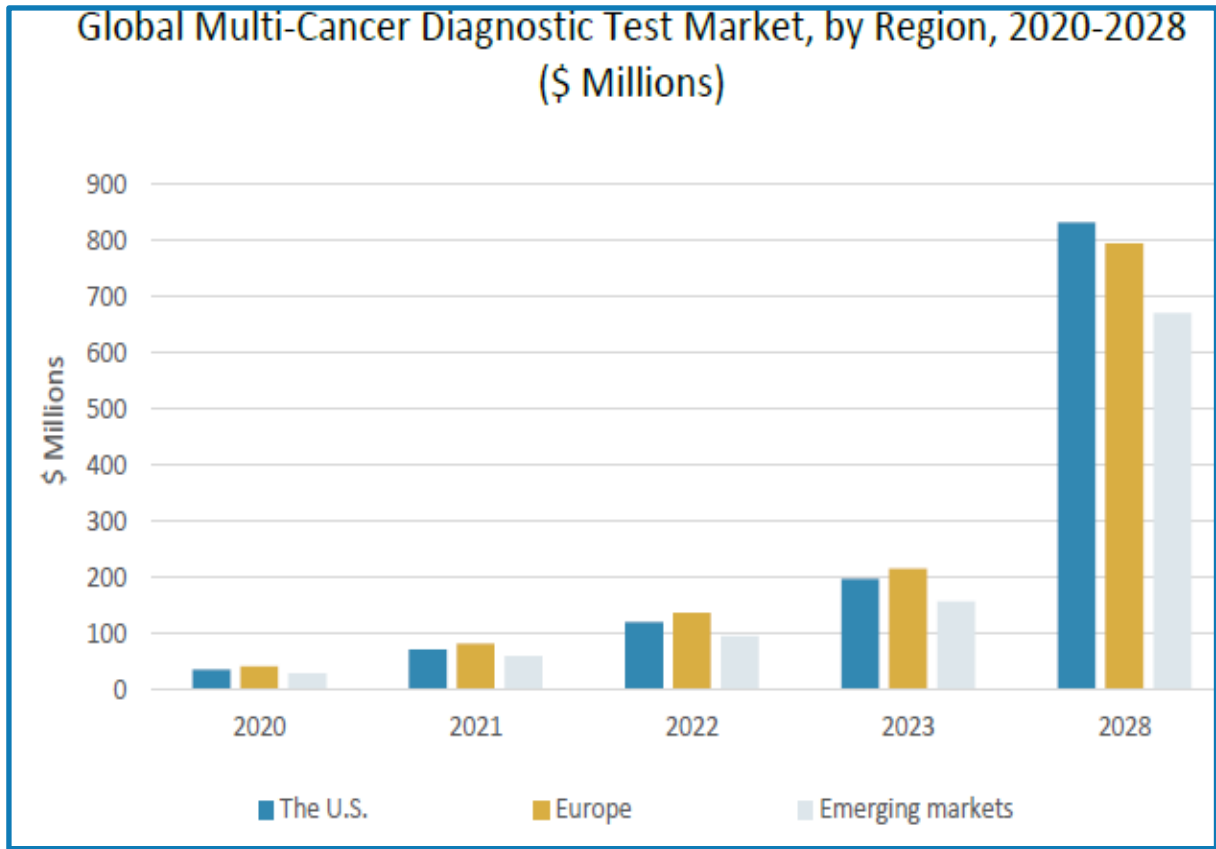
Ya-Chen Tina Shih, PhD  
Director, Program in Cancer Health Economics Research  
Professor, UCLA School of Medicine & School of Public Health

- Senior Advisory Board of OncoCollective, Sanofi

- Market Outlook
- Cost considerations
- Methodological challenges



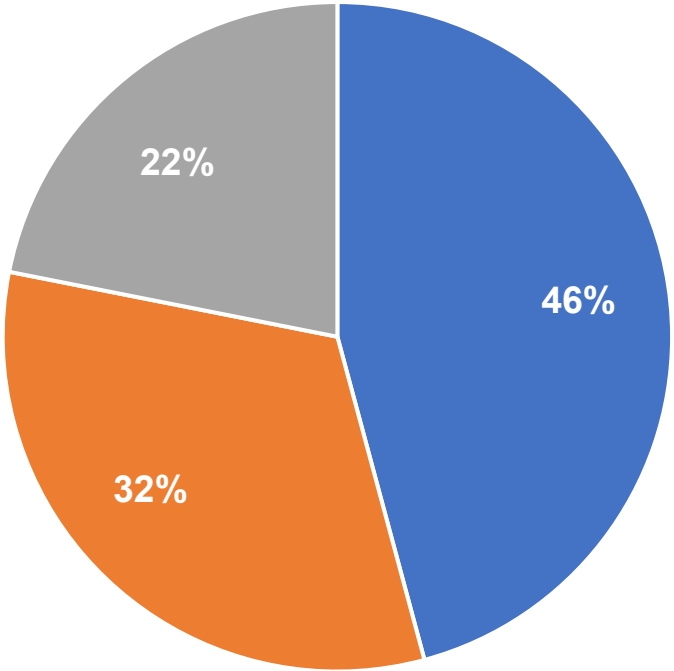
	2020	2021	2022	2023	2028	CAGR% 2023-2028
Global Market	104.5	210.3	350.8	567.5	2,296.4	32.3



Region	2020	2021	2022	2023	2028	CAGR% 2023-2028
The U.S.	35.3	70.7	119.6	196.9	831.3	33.4
Europe	40.4	81.2	136.5	214.5	794.6	29.9
Emerging markets	28.7	58.5	94.7	156.1	670.5	33.8
Total*	104.5	210.3	350.8	567.5	2,296.4	32.3

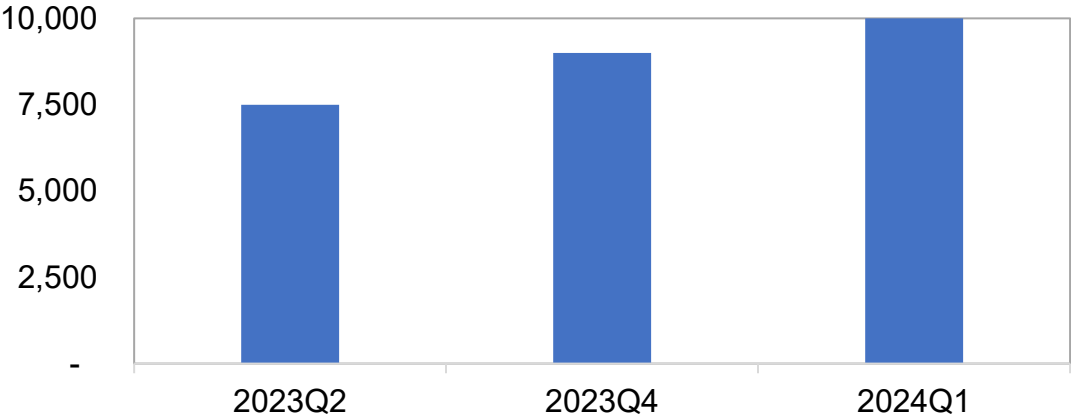
# End Users and Market Growth, US

Distribution of End Users, 2023

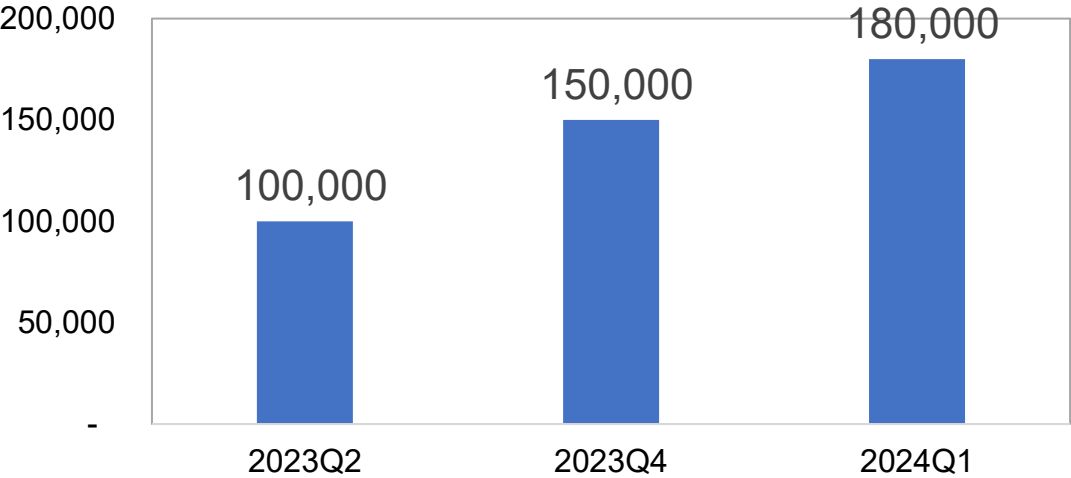


■ Hospitals ■ Diagnostic laboratories ■ Research institutions

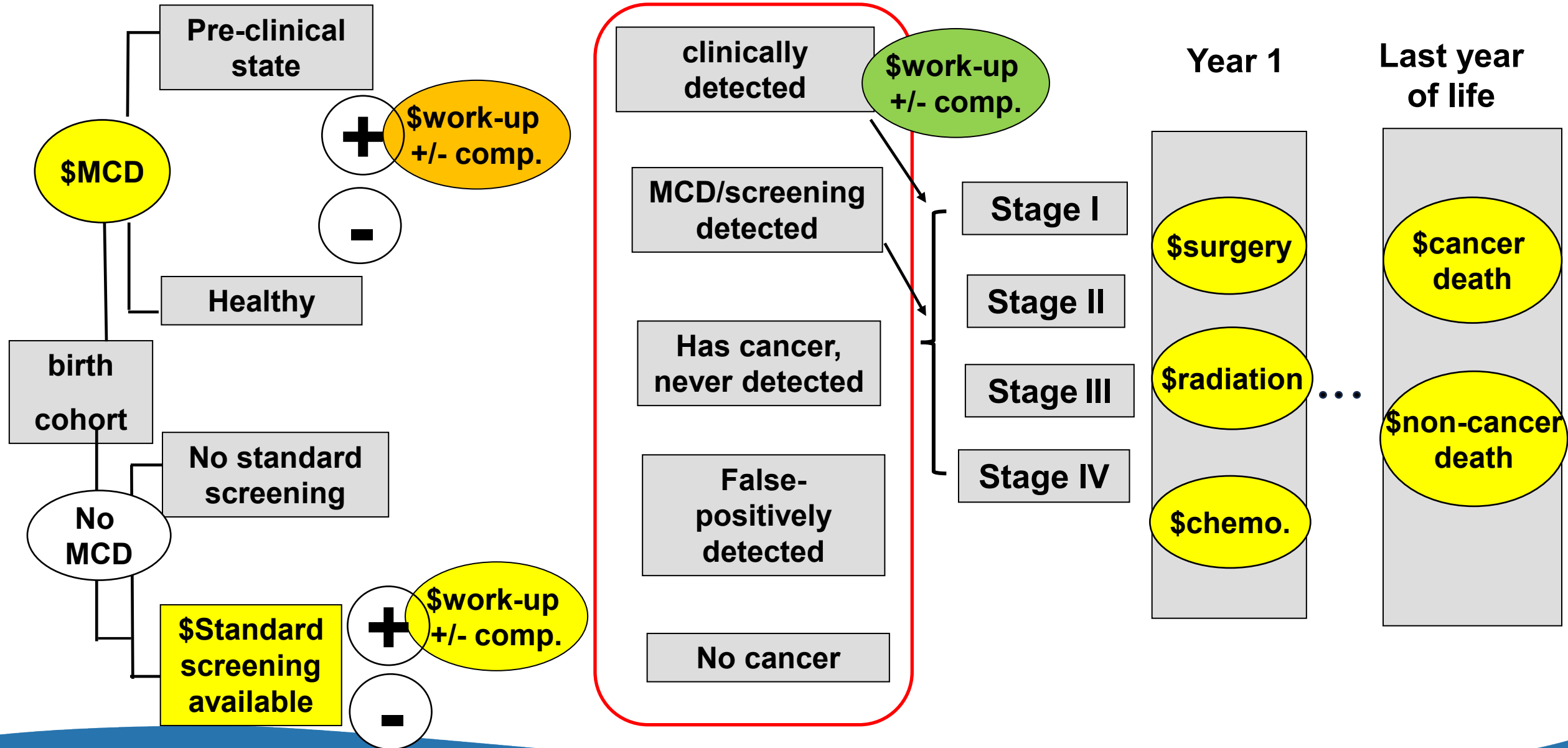
Number of Prescribers (Galleri)



Tests Completed, Cumulative

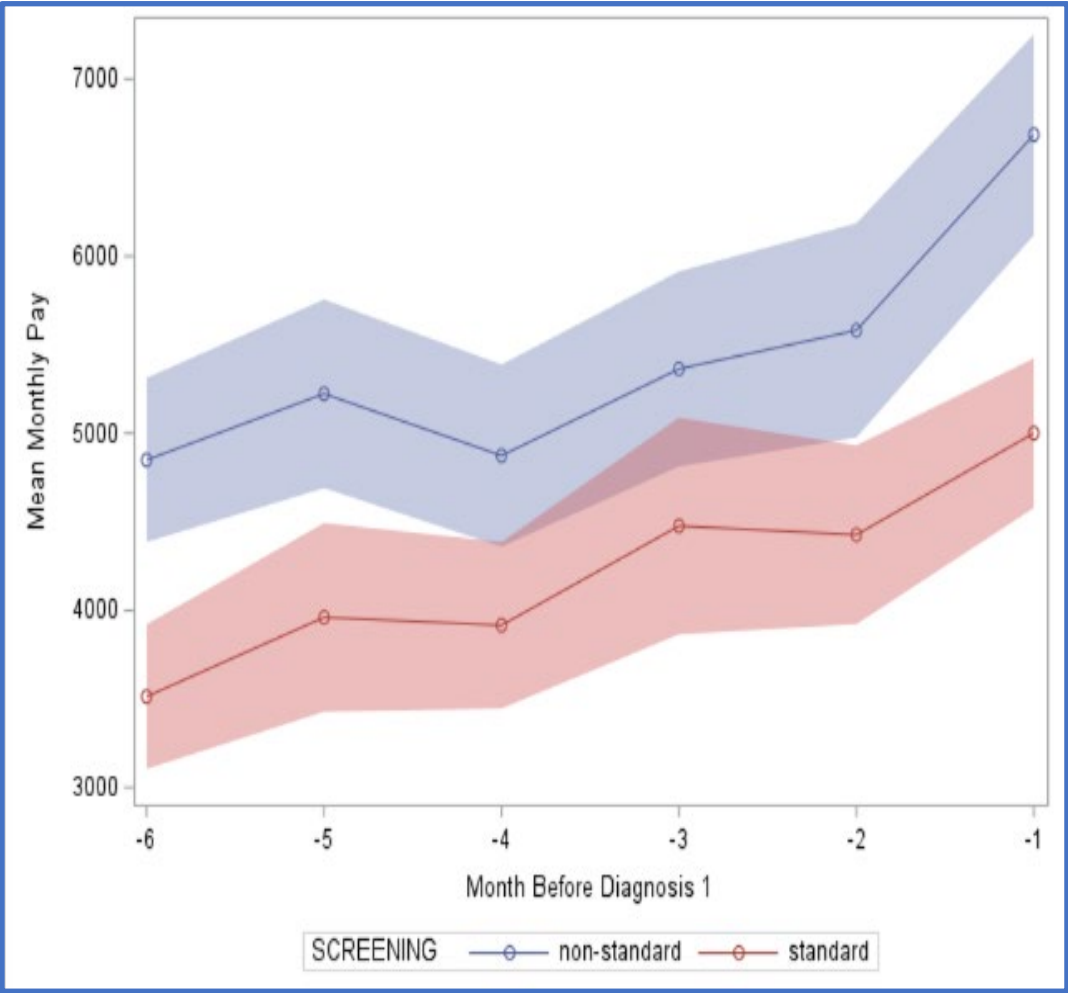


# Cost Considerations

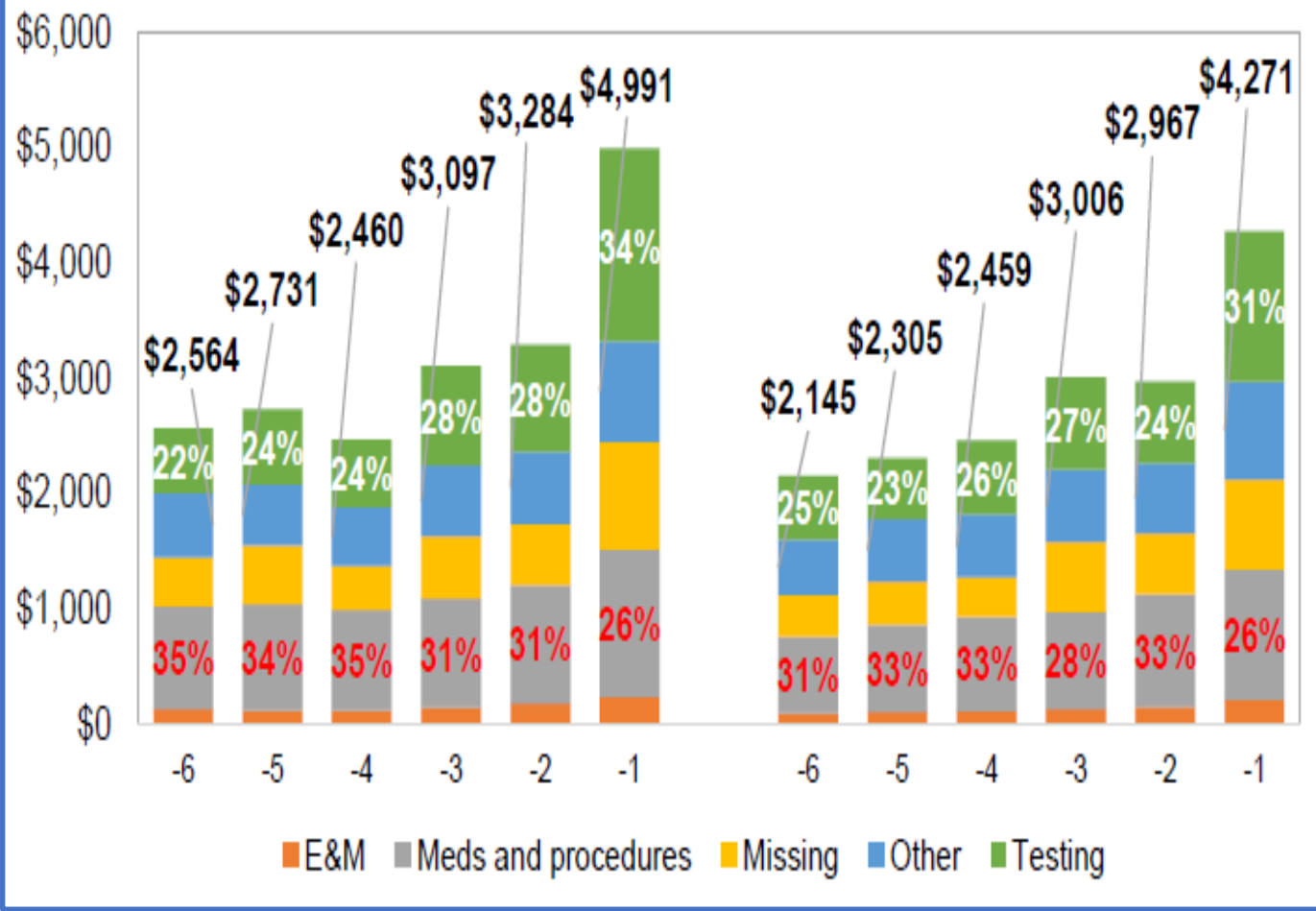


# Potential Harms: Higher Workup Costs

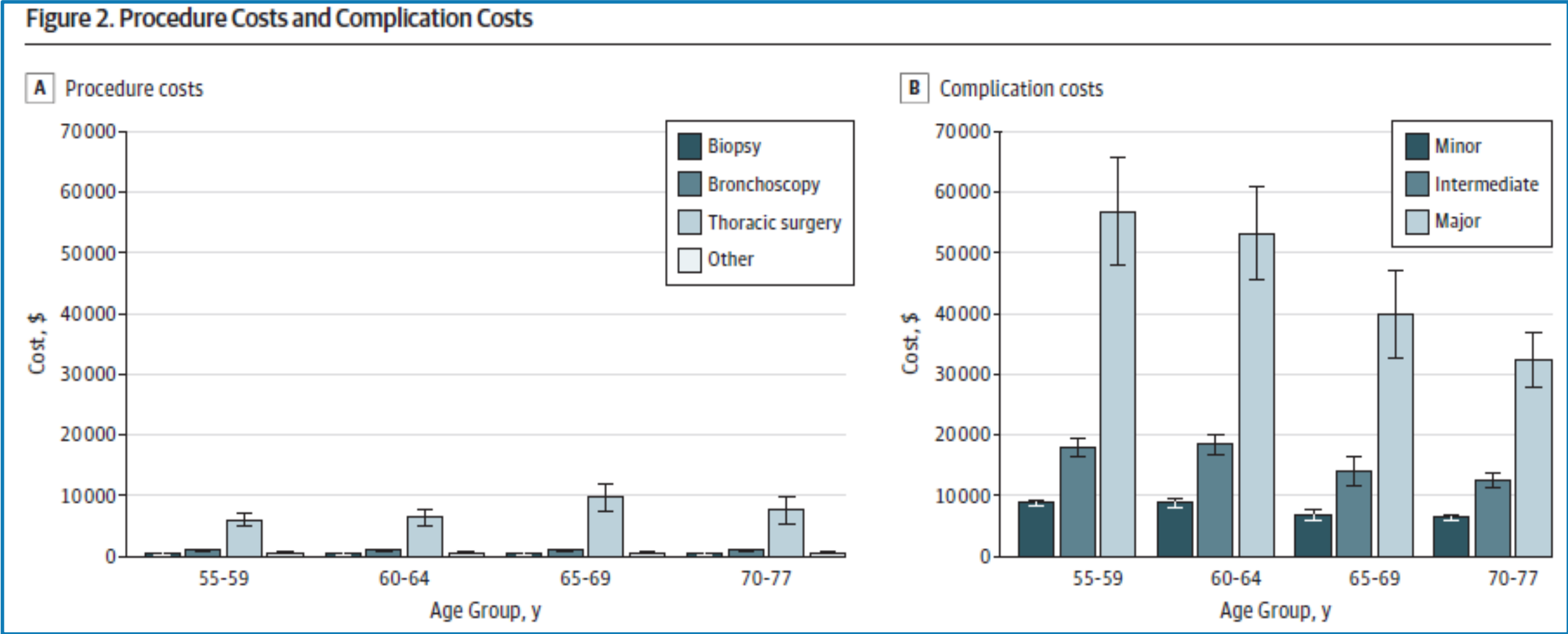
Mean Monthly Costs 6-month before Diagnosis



Distribution by Healthcare Service Category

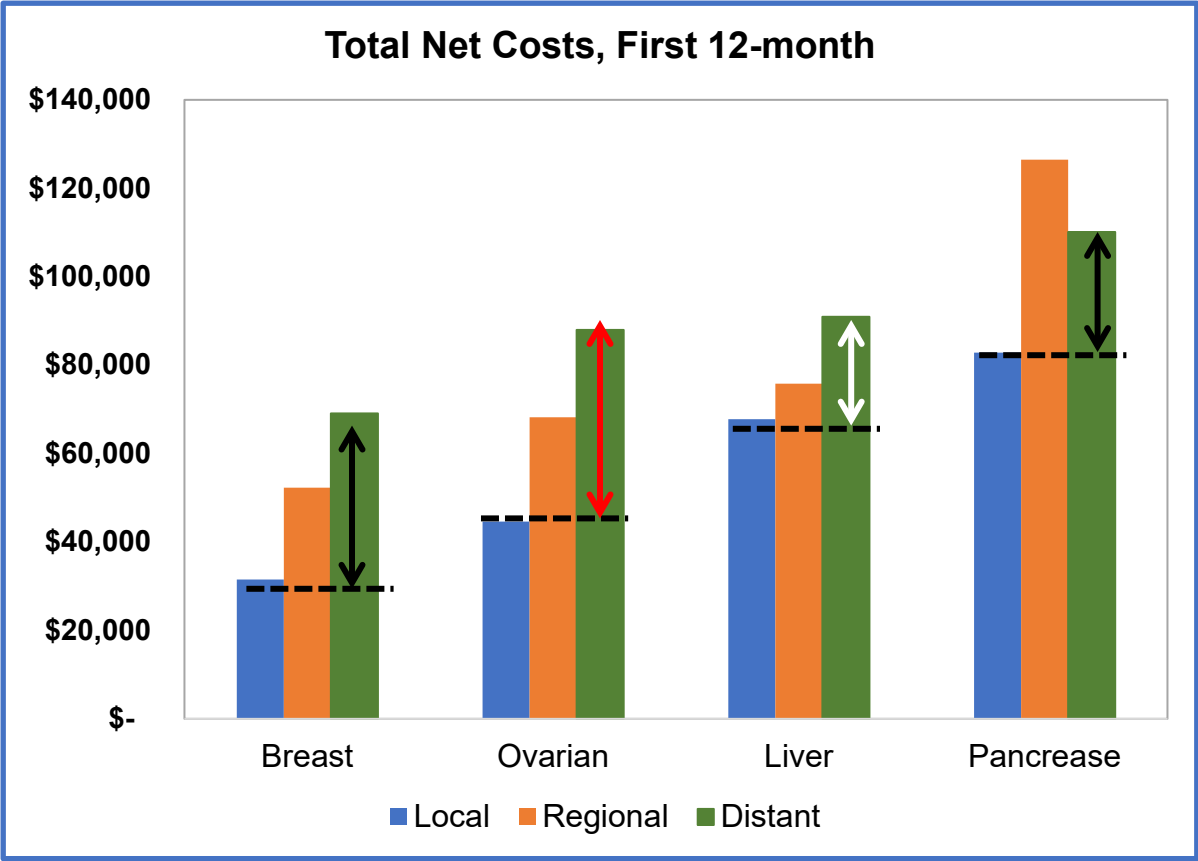


- 3.5% of screened population had invasive workup procedures; among those the complication rate was 16.6%

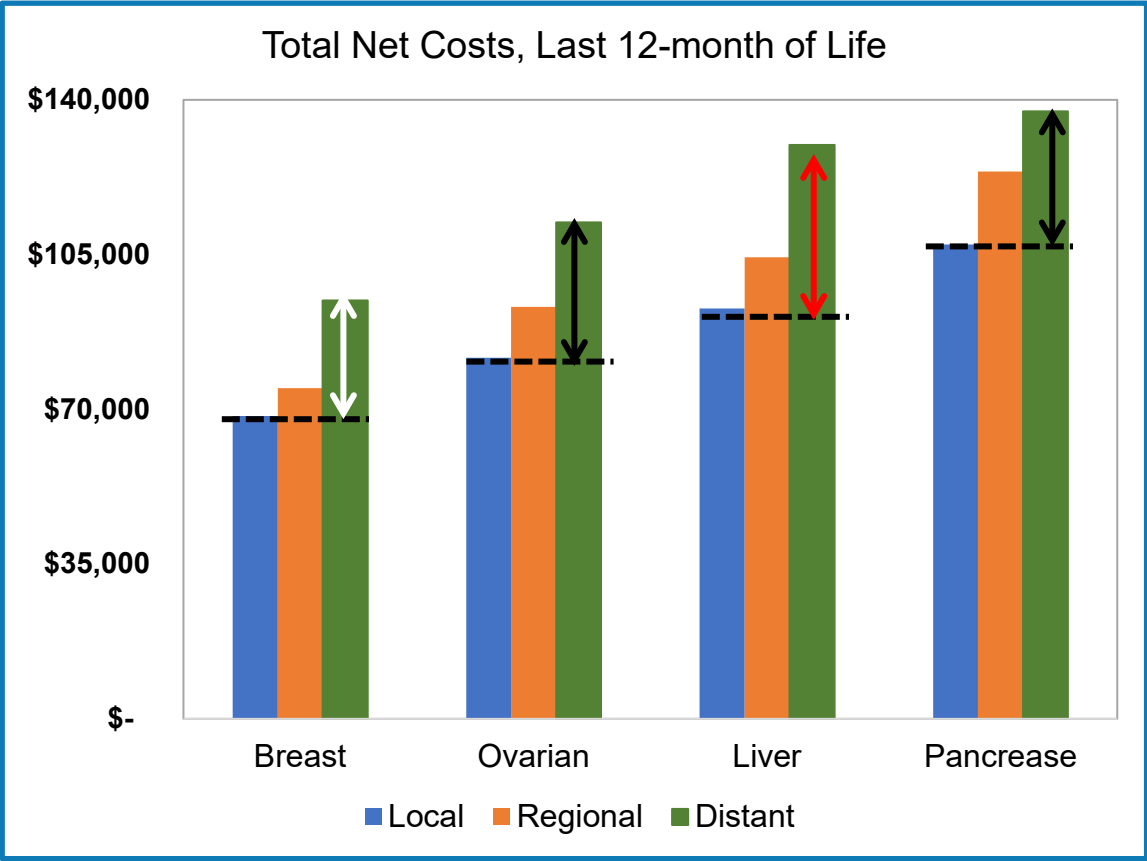




- U-shaped lifetime cancer care costs

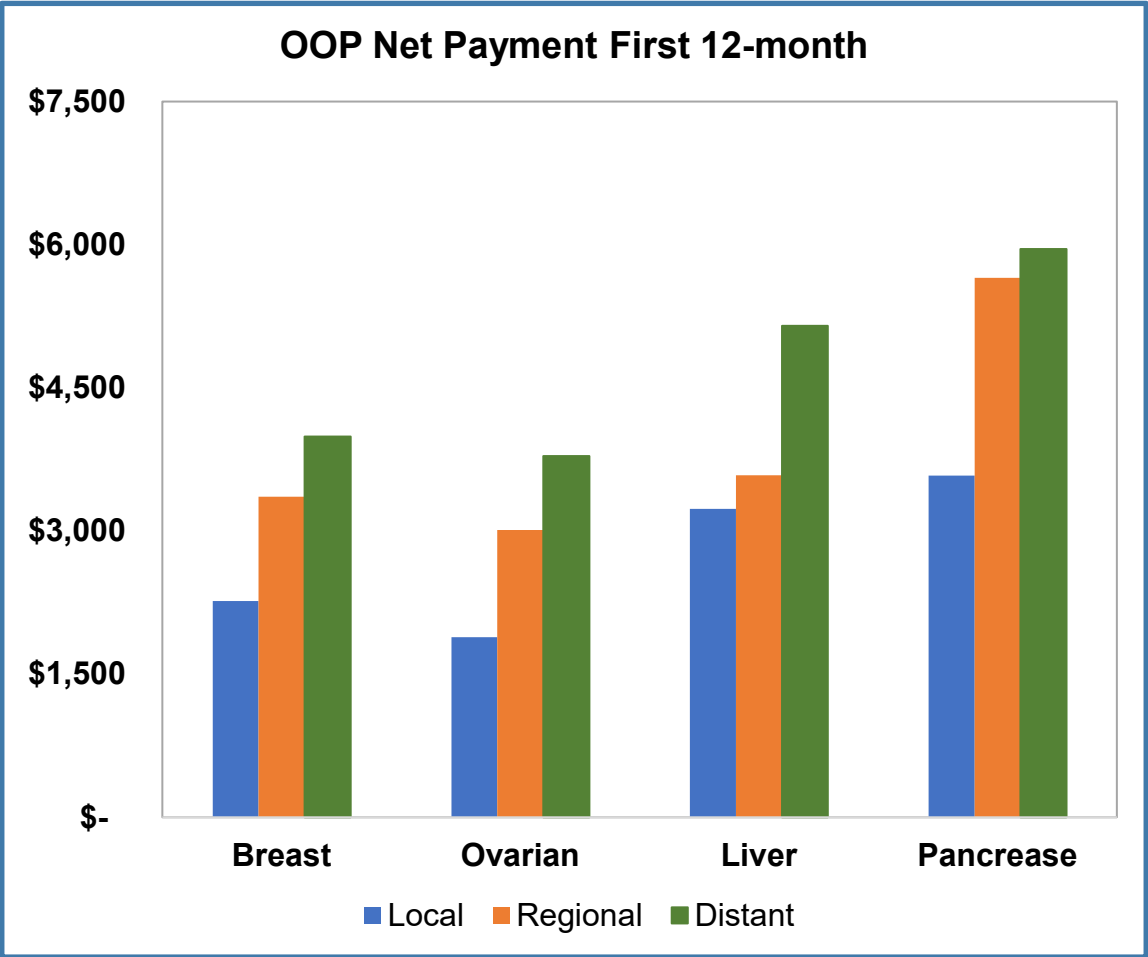


Range of cost saving: \$23,100 - \$43,400

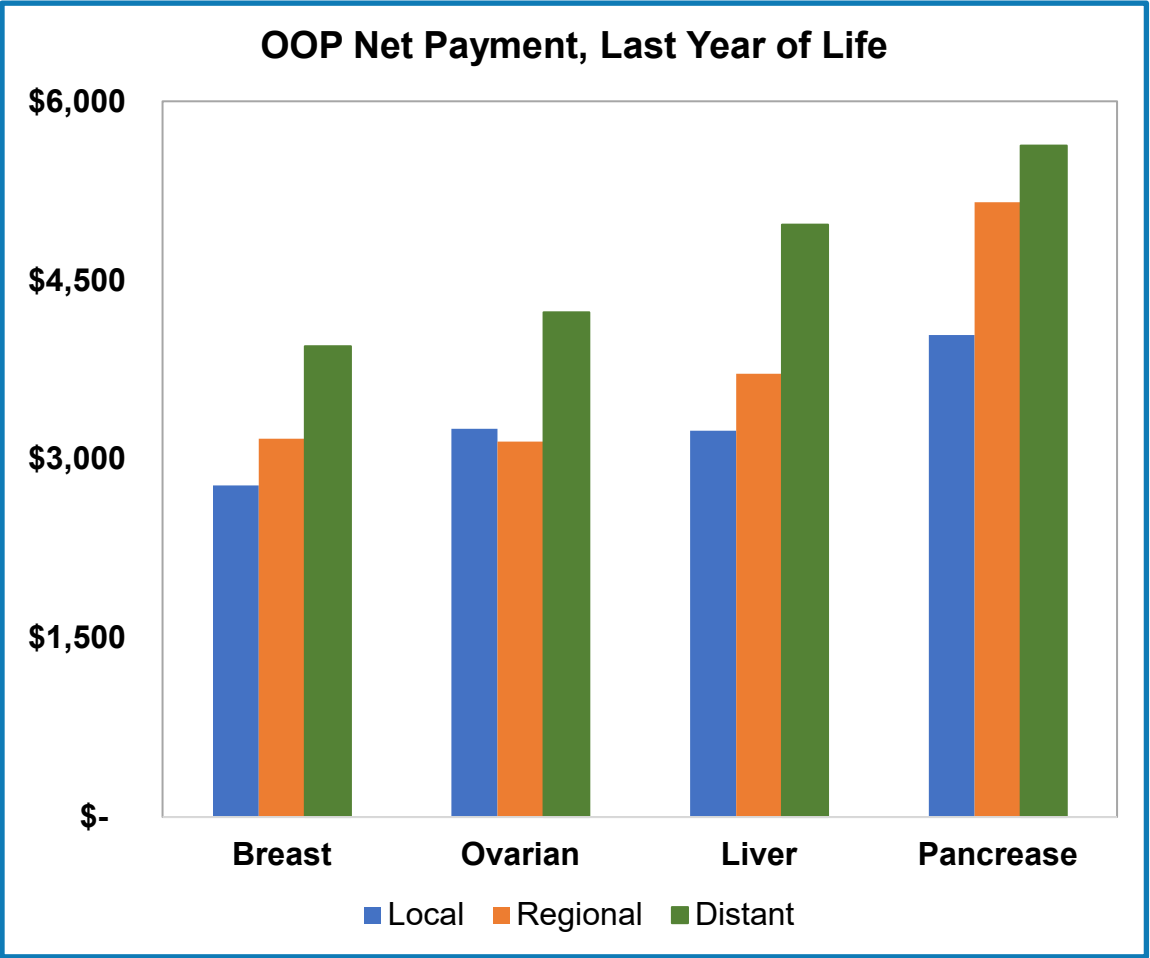


Range of cost saving: \$26,100 - \$37,000

# Potential Savings in OOP Costs from Stage Shift

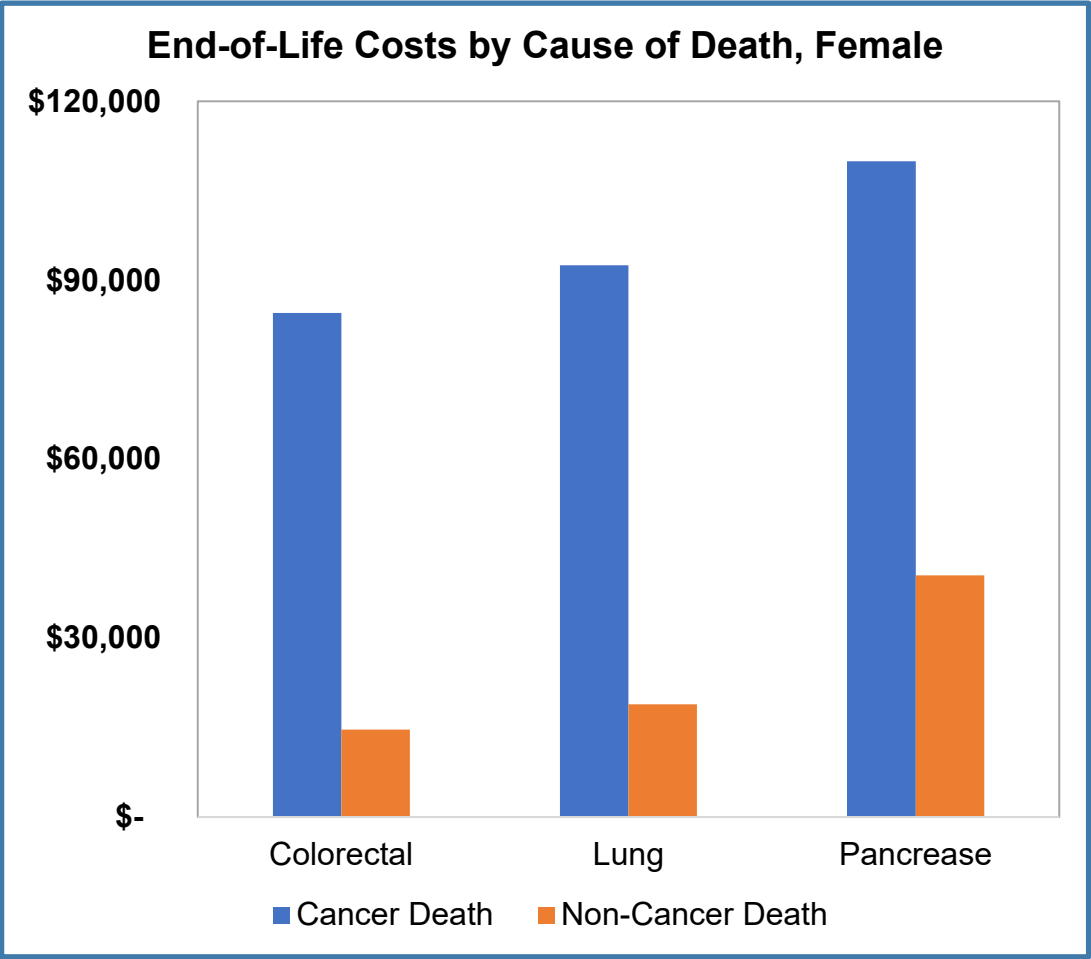


Range of cost saving: \$1,724 - \$2,372

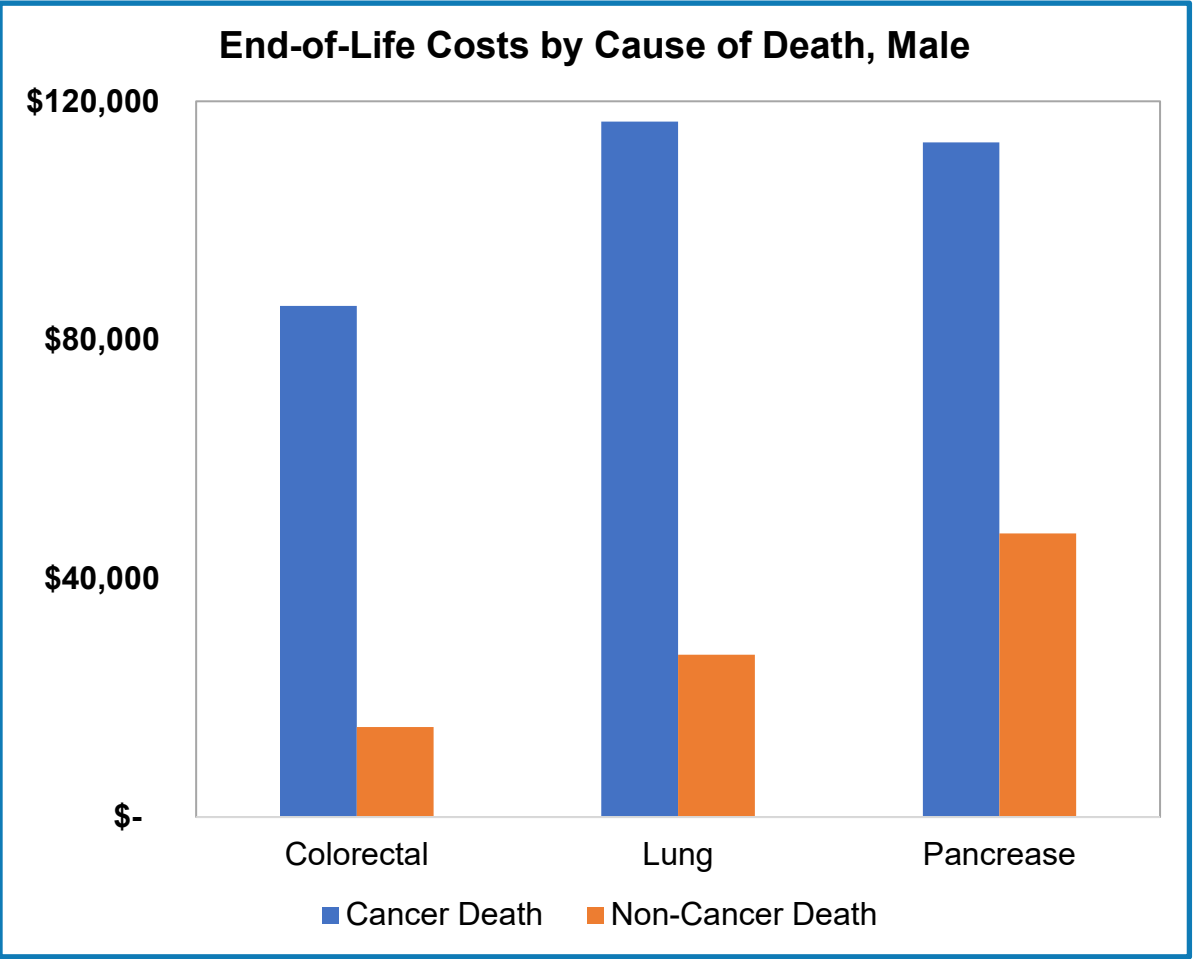


Range of cost saving: \$977 - \$1,729

# Potential Savings from Cancer Death Avoided



Range of cost saving: \$69,403 - \$73,627



Range of cost saving: \$65,550 - \$89,396

- **Require Cancer-Specific Models**
  - Similar to screenings, early detection tests can alter the natural history of cancer
  - Each cancer has its own distinct natural history, disease progression trajectory, work-up protocols, and costs
  - Rigorous models need to consider several factors, all vary by cancers:
    - Test characteristics
    - Lead time bias (often involves estimation of sojourn time)
    - Length bias
    - Participation bias
- **Health Utility Assessment for QALY in Cost-Effectiveness Analysis**
  - Screening and diagnostic work-up are typically modeled as “disutility” that last a relatively short duration
  - If MCD tests signal multiple cancers:
    - “disutility” may vary by the number and the type of cancers indicated
    - Duration of “disutility” will likely be lengthened

***THANK YOU!***

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